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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/599,812

06/05/2007

Hartmut Henkel

9771-015US

4992

79526

7590

05/03/2010

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EXAMINER

AMRANY, ADI

ART UNIT

PAPER NUMBER

2836

MAIL DATE

DELIVERY MODE

05/03/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,812	Applicant(s) HENKEL ET AL.	
	Examiner ADI AMRANY	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed April 13, 2010 have been fully considered but they are not persuasive. First, it is noted that there is no support in the specification or figure for the amended limitation that the monitoring device "is directly electrically connected to the drain and source of the first power transistor" (emphasis added). As can be see in applicants figure, the monitoring device (30) is directly electrically connected to the source of the transistor (42). The figure does not show a direct electrical connection between the monitoring device and the transistor drain.

Also, the current sensing line connected to the source of the transistor is actually provided to the control device (31), not the monitoring device (30). The description in the specification (page 9, line 24 to page 10, line 1) does not specifically describe which terminals of the transistor are connected to the monitoring device. Since applicants' amendments are not supported by the disclosure, the limitation that the monitoring device is connected to the drain of the transistor will not be considered in this Office Action.

Regarding Chang, figure 2 shows a first transistor (Q2) with a monitoring device (197) connected to the source terminal, and a control device (192) connected to the gate terminal of the transistor.

Zansky discloses the claimed device for decoupling. Applicants have not challenged this claim limitation analysis.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang (US 6,577,513).

With respect to claim 1, Chang discloses a device for supply uninterruptible power (fig 2-3; col. 2-3) comprising: input connections (output of unlabeled rectifier) for connection to a primary DC voltage supply device; connections for a standby power source (15); output connections (AC output) ; a device for decoupling the input connections from the first output connections in the event of a fault in the primary DC voltage supply device (12); a first controllable switching device (19) for connecting the standby power source to the first output connections in a controlled manner in the event of a fault in the primary DC voltage supply device; and a control device (192) assigned to the first controllable switching device, characterized in that

the first controllable switching device has a power transistor (Q2; col. 3) having a gate, a drain and a source terminal (shown in the figure),

a monitoring device (197) is provided for the purpose of monitoring the output current flowing through the power transistor, and is directly electrically connected to the source terminal of the first power transistor (shown in figure),

and the control device is directly electrically connected to the gate terminal of the first power transistor and is designed to pulse-width-modulate the power transistor on the basis of the current being monitored in order to limit the current when can be provided by the standby power source (col. 3, lines 28-36).

With respect to claim 2, Chang discloses the standby power source is rechargeable (col. 2, lines 42-55).

With respect to claim 3, Chang discloses a device for blocking a current (17), which is provided by the primary DC voltage supply, to the standby power source, is provided in series with the first power transistor (19).

With respect to claim 4, Chang discloses a smoothing capacitor (C1, C2) connected between the output connections.

With respect to claim 5, Chang discloses a charging device (17) which can be controlled by the control device (line connecting 14 and 17) is connected between the standby power source (15) and the input (noted by "+15V").

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Zansky (US 7,034,413).

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With respect to claim 6, Chang disclose that the device for decoupling is a switch (12). Zansky discloses a UPS (fig 1-2; col. 2-3) comprising an input (fig 2, V_{in}), a backup source (245), an output (V_{out}), a device for decoupling (215), and a first controllable switching device (250). Zansky disclose that the device for decoupling is a parallel connection of a diode and a controllable switching device (215), a monitoring device to monitor an input voltage (V_1), and the control device (220) disconnects the second controllable switching device when the input voltage being monitored signals a fault in the primary supply device (col. 2, line 65 to col. 3, line 1).

Chang and Zansky are analogous because they are from the same field of endeavor, namely UPS systems. At the time of the invention by applicants, it would have been obvious to replace the Chang switch with the Zansky transistor/diode circuit, since the two devices are art recognized equivalents for their ability to disconnect two conducting lines. The actual device used to decouple the source is an obvious design choice, so long as it can accomplish the function (which is met by Chang and Zansky).

With respect to claim 7, Zansky (215) discloses that the second controllable switching device is a second power transistor. Although Zansky shows a FET, the reference states that it would be obvious to use another type of transistor.

With respect to claim 12, Chang and Zansky disclose the recited limitations, as discussed above in the rejections of claims 1 and 6-7.

4. Claims 8-11 and 14 -18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Zansky and Eng (US 4,745,299).

With respect to claims 8 and 14, Chang and Zansky disclose the UPS of claim 1 (and the corresponding limitations found in claim 14). The references do not expressly disclose a supply output connected in parallel to the first output connection.

Eng discloses a device for supplying uninterruptible power (fig 1) comprising: input connections (+,- of rectifier 11), connection for a standby power source (12); a first output connections (Von); a device for decoupling (13) the input connections in the event of a fault in the primary DC supply; a first controllable switching device (14) for connecting the standby power source to the output in a controlled manner in the event of a fault in the primary DC supply (col. 1, lines 5-9; col. 4, lines 51-58), the first controllable switching device comprising a power transistor; a control device (30, 34) which is assigned to the first controllable switching device, the control device being directly electrically connected to the gate terminal of the power transistor (shown in figure); and a supply output (V02) which is connected in parallel with the first output connections and whose current is limited by a current limiter (rectifier and filter in the current path) resulting in a current limited supply output.

As previously noted, the recited "current limiter" has no internal structure or function (other than to limit current). Therefore, the components shown in the output current path (Vo2) are interpreted as the current limiters. Further, by pulse-width modulating the first transistor (14), the power supply from the battery is current-limited. Therefore, it would also be obvious that any output coupled to the first transistor is also current-limited.

Chang, Zansky and Eng are analogous because they are from the same field of endeavor, namely UPS systems. At the time of the invention by applicants, it would have been obvious to combine the UPS disclosed in Chang/Zansky with the second output disclosed in Eng. The motivation for doing so would have been to provide uninterruptible power to two different loads. One skilled in the art would recognize the reduced costs of supplying uninterruptible power to two loads from one system.

With respect to claims 9 and 15, it would be obvious to one skilled in the art to connect "state signaling devices" to the Eng second output connection (Vo2), since these limitations are drawn to the end use of the UPS. The UPS will function in the same way regardless of what type of load is connected to one of the outputs. It would also be obvious that these state-signaling devices comprise their own controllable switching device, since it is well known in the art that electronics include on/off switches.

Further, Eng discloses two outputs. At the time of the invention by applicants, it would have been obvious to one skilled in the art to add another output ("connection contact"), since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 (CCPA 1977). Lastly, as shown in figure 1 (and obvious to anyone building the UPS), the outputs are physically separated ("arranged at a predetermined distance"). It would not be possible to construct two outputs in the same exact location.

With respect to claims 10 and 16, it would be obvious to one skilled in the art that if two outputs are shorted, they will provide exactly the same voltage. Therefore, it would be obvious to one skilled in the art to use "a predefined contact bridge" in the

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second Eng output (Vo2) in order to supply power to two loads at the same voltage.

The ability to duplicate output ports is well known in the art, and Eng provides the motivation to supply power to more than one load.

With respect to claims 11 and 17-18, it would be obvious that the Eng switch (13) and a relay/switchover relay are art recognized equivalents for the purpose of making/breaking electrical contact to complete/break a current path from a source to an output. The preferred type of switch used can be found through minimal trial and error or by taking the electrical and physical properties of each switch into account when designing the UPS.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sanada (US 6,657,319; previously cited on 3/18/08) discloses a UPS with an input decoupler (12), a battery current sensor (24) and a switch (14) that is pulse-width controlled "based on" the detected current. Tominaga (US 2002/0189906) discloses a UPS comprising a battery current sensor (15), and a switch (11) that is controlled based on the detected current.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADI AMRANY whose telephone number is (571)272-0415. The examiner can normally be reached on Mon-Thurs, from 10am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jared Fureman can be reached on (571) 272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information

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about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AA
4-30-10

/Stephen W Jackson/
Primary Examiner, Art Unit 2836